In the Claims

Please amend claims 29, 30, 32, 34, 36, 37, 38, 41, 43, 45, 48, and 66 as indicated in the following Listing of Claims.

Please cancel claims 31, 35, 44, 63-65, and 67, without prejudice or disclaimer.

The listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

29. (Currently Amended): An isolated ~~nucleic acid molecule encoding a polypeptide comprising two double paired zinc finger motifs, the~~ nucleic acid molecule comprising~~,~~ ~~comprising:~~

~~(a) a nucleic acid molecule comprising a nucleic acid molecule~~ a contiguous coding region encoding the polypeptide having the amino acid sequence of SEQ ID NO:2~~;~~

~~(b) a nucleic acid molecule hybridizing to the nucleic acid molecule of (a) in a hybridization solution comprising 50% formamide, 6X SSC, 0.1% SDS, and 100ug/ml single stranded DNA and a wash solution comprising 0.1x SSC, 0.1% SDS wherein hybridization is performed at a temperature above 37C and washing is performed at a temperature above 55C~~.

30. (Currently Amended): The isolated nucleic acid molecule of claim 29, wherein said polypeptide ~~regulates or mediates~~ influences transcription of a gene.

31. (Canceled)

32. (Currently Amended): An isolated nucleic acid molecule ~~comprising the nucleotide sequence of a mammalian homolog of SEQ ID NO:1, wherein the nucleic acid is complementary to a nucleic acid that hybridizes to SEQ ID NO:1 or SEQ ID NO:6 under low stringency conditions, and wherein the nucleic acid molecule is identical in sequence to a portion of human chromosome 21q22.3, or a portion of a mammalian~~

~~chromosome that shares conserved synteny with human chromosome 21q22.3~~ encoding the polypeptide having the amino acid sequence of SEQ ID NO:9.

33. (Previously Presented): The isolated nucleic acid molecule of claim 32 wherein the molecule is a murine homologue.

34. (Currently Amended): The isolated nucleic acid molecule of claim 33, ~~selected from the group consisting of:~~

~~(a) a nucleic acid molecule comprising a nucleic acid molecule encoding the polypeptide having the amino acid sequence of SEQ ID NO:9;~~

~~(b)~~ wherein the [[a]] nucleic acid molecule ~~comprising~~ comprises SEQ ID NO:6~~;~~ ~~and~~

~~(c) a nucleic acid molecule hybridizing to the nucleic acid molecule of (a) or (b) in a hybridization solution comprising 50% formamide, 6X SSC, 0.1% SDS, and 100ug/ml single-stranded DNA and a wash solution comprising 0.1x SSC, 0.1% SDS wherein hybridization is performed at a temperature above 37C and washing is performed at a temperature above 55C~~.

35. (Canceled)

36. (Currently Amended): ~~The isolated nucleic acid molecule of claim 35,~~ An isolated nucleic acid molecule differing from the nucleic acid sequence of SEQ ID NO:1 by an insertion, wherein the insertion is: ~~wherein said insertion, which is a~~

a) ~~a duplication of 4 nucleotides~~ an insertion of ~~(~~CCTG~~)~~ ~~normally found~~ at position 1086[[-1089,]];

b) ~~is~~ a 4 nucleotide insertion at the nucleotide position 1085 or 1090[[,]];

c) an insertion of an adenosine at position 1284[[,]]; or

d) an insertion of a cytosine at position 1365 of the nucleotide sequence of SEQ ID NO:1.

37. (Currently Amended): An isolated nucleic acid molecule differing from the nucleic acid sequence of SEQ ID NO:1 by a deletion, wherein the deletion is: ~~The isolated nucleic acid molecule of claim 35, wherein said deletion is~~

a) a 13 nucleotide deletion of nucleotides 1085-1097[[,]];

b) a deletion of the thymidine at position 1051; or

c) a deletion of the cytosine at position 1309 or 1313 of the nucleotide sequence of SEQ ID NO:1.

38. (Currently Amended): An isolated nucleic acid molecule differing from the nucleic acid sequence of SEQ ID NO:1 by a substitution, wherein the substitution is: ~~The isolated nucleic acid molecule of claim 35, wherein said substitution is~~ a cytosine to thymidine exchange at nucleotide position 889, a guanosine to thymidine exchange at nucleotide position 358, an adenosine to guanosine exchange at nucleotide position 374, a guanosine to adenosine exchange at nucleotide position 1052, or a cytosine to adenosine exchange at nucleotide position 1094 ~~of the nucleotide sequence of SEQ ID NO:1~~.

Claims 39-40 (Canceled)

41. (Currently Amended): An isolated ~~fragment of the~~ nucleic acid molecule ~~of claim 29 comprising~~ consisting of between at least ~~about~~ 21 contiguous nucleotides and 2245 contiguous nucleotides of SEQ ID NO:1, or between 21 contiguous nucleotides and 1656 contiguous nucleotides of SEQ ID NO:6,~~, wherein the isolated fragment hybridizes to SEQ ID NO:1 in a hybridization solution comprising 50% formamide, 6X SSC, 0.1% SDS, and 100ug/ml single-stranded DNA and a wash solution comprising~~

~~0.1x SSC, 0.1% SDS wherein hybridization is performed at a temperature above 37C and washing is performed at a temperature above 55C~~.

42. (Previously Presented): An isolated nucleic acid molecule which is complementary to a nucleic acid molecule of claim 29 or claim 35.

43. (Currently Amended): The isolated nucleic acid molecule of claim 29 ~~or claim 35~~ wherein the molecule is DNA or RNA.

44. (Canceled)

45. (Currently Amended): An isolated vector comprising the nucleic acid molecule of claim 29, [[or]] claim 35, or claim 68.

46. (Previously Presented): An isolated host transformed with a vector of claim 45.

47. (Previously Presented): The host of claim 46 which is a bacterium, a yeast cell, an insect cell, a fungal cell, a mammalian cell, a plant cell, a transgenic animal or a transgenic plant.

48. (Currently Amended): A method of producing a polypeptide encoded by the nucleic acid molecule of claim 29, comprising culturing an isolated host transformed with a vector comprising a nucleic acid molecule of claim 29 and isolating said polypeptide from said culture or said host.

49. (Withdrawn): A polypeptide produced by the method of claim 48.

50. (Withdrawn): A polypeptide encoded by the nucleic acid molecule of claim 29 or claim 35.

51. (Withdrawn): A compound derived from the polypeptide of claim 50 and having essentially the same three dimensional structure thereof.

52. (Withdrawn): An antibody that specifically recognizes the polypeptide of claim 50.

53. (Withdrawn): An antibody that specifically recognizes the compound of claim 51.

54 (Canceled)

55. (Withdrawn): A method for testing for carriership for APECED or for a corresponding disease state comprising testing a sample obtained from a prospective patient or from a person suspected of carrying a predisposition for a mutation in the nucleic acid molecule of claim 29.

56. (Withdrawn): A method for testing for carriership for APECED or for a corresponding disease state comprising testing a sample obtained from a prospective patient or from a person suspected of carrying a predisposition for a mutated form of the polypeptide as defined in claim 29 in an immunoassay.

57. (Withdrawn): A pharmaceutical composition comprising the polypeptide of claim 50.

58. (Withdrawn): A pharmaceutical composition comprising the compound of claim 51.

59. (Withdrawn): A pharmaceutical composition comprising the antibody of claim 52.

60. (Withdrawn): The antibody of claim 52, wherein the antibody is monoclonal.

61. (Withdrawn): A method for treating a patient having APECED or being a carrier thereof comprising contacting a cell of the patient with a nucleic acid molecule of claim 29, thereby treating the patient.

62. (Previously Presented): An isolated nucleic acid molecule according to claim 29, wherein the nucleic acid molecule has the nucleotide sequence of SEQ ID NO:1.

Claims 63-65 (Canceled)

66. (Currently Amended): The nucleic acid molecule of claim ~~35~~ 38, wherein said substitution is a cytosine to thymidine exchange at nucleotide position 889 of SEQ ID NO:1.

67. (Canceled)

68. (New): The isolated nucleic acid molecule of claim 29, wherein the nucleic acid molecule consists of the contiguous nucleotide sequence of SEQ ID NO:1, or the coding region thereof.